



Process for the reduction of carbon monoxide and carbonyl sulfide emissions

Description of Technology: This invention relates to a process for reducing carbon monoxide (CO) and carbonyl sulfide (COS) emissions.

Patent Listing:

1. **US Patent No. 7,261,870**, Issued August 28, 2007, "Process for the reduction of carbon monoxide and carbonyl sulfide emissions"

<http://patft.uspto.gov/netacgi/nph-Parser?Sect2=PTO1&Sect2=HITOFF&p=1&u=%2Fnetacgi%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&d=PALL&RefSrch=yes&Query=PN%2F7261870>

Market Potential: A process for chlorinating titanium-containing materials in a fluidized bed reactor is known. Suitable processes are disclosed in patents U.S. Pat. No. 2,446,181; U.S. Pat. No. 2,701,179; U.S. Pat. No. 3,591,333; and U.S. Pat. No. 3,883,636. In such processes, chlorine, particulate coke, particulate titanium-bearing materials, chlorine and optionally oxygen or air, wherein at least one of these contains sulfur, are fed into a fluidized bed reactor under conditions which chlorinate the titanium and many of the other metallic impurities. Gaseous titanium tetrachloride, other metallic chlorides, carbon monoxide (CO), carbonyl sulfide (COS), carbon dioxide (CO₂) and other gaseous products exit the fluidized bed reactor. The gaseous titanium tetrachloride produced can then be separated from the other metal chlorides and impurities and oxidized to titanium dioxide, a white pigment, or further processed to produce titanium metal.

There is a need for an efficient catalytic process for the oxidation of carbon monoxide to carbon dioxide in the presence of carbonyl sulfide and also to simultaneously oxidize carbonyl sulfide to sulfur oxides.

Benefits:

- An efficient catalytic process

Applications:

- Gas emissions

Contact: Ken Anderson

Director, Entrepreneurial & Small Business Support, Delaware Economic Development Office (DEDO)

Carvel State Building, 820 French Street, Wilmington, DE, 19801

Phone: (302) 577-8496, Fax: (302) 577-8499, Email: Kenneth.R.Anderson@state.de.us